

**LINEAR ACTUATOR**

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**ABSTRACT OF THE DISCLOSURE**

10 A linear actuator incorporates a DC motor whose stator is secured to a frame. A shaft is coupled to the rotor of the DC motor one end of which is circumferentially coupled to the inside of a torsion spring and the outer section of the torsion spring is coupled to the frame. The center section of the shaft is circumferentially raised creating first and second shaft stops. The middle of the shaft is threaded and threadedly coupled to a translating actuator which has a radial raised portion which engages a section of the frame. The radial raised section provides a radial stop and prevents the translating actuator from rotating. Additional radial raised portions on the translating actuator create 15 first and second stops that engage the first and second shaft stops at each extreme of travel. The first stop keeps the threads from binding in a retracted position and the second stop keeps the threads from binding in the extended position. The torsion spring stores rotational energy of the motor when it is powered and returns it, reversing the shaft, when power to the motor is removed. 20

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